36817 Foothill Road Soledad, CA 93960 Phone (831) 678-0799 Fax (831) 678-3551

January 15, 2019

Mr. John Robertson
Executive Officer,
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

Via: Email to AgNOI@waterboards.ca.gov

RE: Comments to Ag Order 4.0 Options Tables

Dear Mr. Robertson:

Thank you for the opportunity to provide comments on the Ag Order 4.0 Options Tables.

I am a fourth-generation member of a farming family in the Salinas Valley. Our farm supports the four families of the owners and over 700 employees. One of my focus areas within our company is food safety. I graduated from Cal Poly, SLO in 2005 with a Bachelor of Science Degree in Agricultural Business, Farm & Ranch Management concentration, and a Minor in Crop Science. Shortly after I graduated, the ag industry was faced with an E. coli outbreak related to spinach in 2006. Most will tell you that this was when the food safety model we are all familiar with was codified and has been an integral piece of the food production world since. I was very involved with the formation of the California Leafy Green Marketing Agreement (LGMA) metrics, serving on technical committees tasked with developing metrics based on the best science available to us. I've continued to serve on the LGMA Technical Advisory Committee since its inception in 2007, where we continually amend these metrics as more research is conducted and more timely scientific data is available. Additionally, I've participated on the Leafy Greens Task Force, formed in 2018 as a body to examine recent foodborne illness outbreaks. Coupled with my almost 14 years of day to day food safety management on the farm, actively participating in these efforts as well as involvement with other organizations such as Grower-Shipper Association of Central California's Food Safety Committee, Center for Produce Safety and California Leafy Greens Research Board has provided me a solid technical foundation in food safety. Our company is committed to growing a safe supply of food, all while being the best stewards of the land we can be.

The main area that I wanted to provide comment on in this letter is with regard to Table 5: Riparian Habitat Management for Water Quality Protection. Vegetative Buffers have long

been a struggle for compliance with current food safety mandates. We find ourselves placed in the middle of a "no-win" situation, as on one hand we have State and Federal regulatory bodies telling us that we must keep areas adjacent to production locations free of excess vegetation and on the other hand we have an Ag Order mandate for riparian buffer requirements, or proposing to mandate the expansion of vegetated buffers, and the prohibition of removal of existing native riparian vegetative cover. This sets growers like ourselves up for failure and puts us at odds with conflicting rules from regulatory bodies.

Specifically from Table 5, with regard to Phasing or Prioritization; in the basis for phases, Option 1 does not take into account any adjacent land use activities which have a direct impact on food safety risk assessments that we conduct daily. Option 2 assumes that all ranches are exactly the same with regard to items such as adjacent land use, habitat and environmental factors, thus allowing us zero flexibility to manage each ranch differently according to its potential for food safety risk.

Additionally from Table 5, with regard to Numeric Limits; the table does not account for vegetative management practices that encourage proactive food safety practices. A prescriptive number codified in the regulatory order, which takes no consideration for vegetative management practices for a healthy food safety program, ties our hands as growers and removes important tools from our toolkits, such as the removal of overgrown existing native riparian vegetative cover. Since we do not fully understand the relationship between vegetative cover in close to proximity to fresh produce fields and the potential for introduction of harmful pathogens via animals, it seems premature to mandate specific percentages of the vegetative cover classes, with a time schedule to implement before having additional research to examine the issue.

Lastly, from Table 5, with regard to Monitoring and Reporting; compliance to the Riparian Management Reporting for both Option 1 and Option 2 will automatically provide a basis for the shippers we grow for to impose mandatory buffered areas into our production fields. A few examples of previous mandatory buffers that have been imposed by shippers because of food safety concerns: "50' Buffer along north side of blocks (rodents/harborage)", "75' Buffer along west side of block (undisturbed area / leaves from trees)", "60' Buffer along north side of block (trees/foreign material)", "50' Buffer from ditch (vegetation/rodents)", "100' Buffer along northeast end of block (trees/ foreign material)".[1] With reporting of this type of habitat, we are effectively setting ourselves up for mandatory buffers without the ability to manage the area to prove minimized risk associated with the habitat.

The California Leafy Green Marketing Agreement (LGMA) is an example of a State food safety program with regulatory compliance directives. The LGMA is a food safety program that verifies science-based farming practices using government audits and requires 100% compliance. The program was designed with a set of checks and balances to ensure leafy greens farmers do all they can to protect public health by establishing a culture of food safety on the farm. LGMA auditors are employed by the California Department of Food and Agriculture and licensed by the U.S. Department of Agriculture.

---

[1] From confidential shipper conducted food safety ranch audits

They are financially independent of the LGMA and leafy greens industry, unbiased and required to report threats to public health to regulatory authorities.[2]

FDA's Food Safety Modernization Act (FSMA) is an example of a Federal regulatory program tasked with food safety oversight. FDA has finalized seven major rules to implement FSMA, recognizing that ensuring the safety of the food supply is a shared responsibility among many different points in the global supply chain for both human and animal food. The FSMA rules are designed to make clear specific actions that must be taken at each of these points to prevent contamination.[3] Failure to comply with produce standards under FSMA would result in FDA's consideration of different regulatory actions that could include: the issuance of advisory letters, court actions (such as seizure or injunction), and administrative actions, such as administrative detention to gain control of adulterated or misbranded products, mandatory recall of violative food, or suspension of a facility's food registration to prevent the shipment of food.[4]

Additionally, as growers, we are subject to a variety of other audit inspections throughout the year. These include, but are not limited to, Shipper Audits (conducted by shippers we contract produce to), Customer Audits (buyers who procure product from those shippers) and 3rd Party Audits (outside parties contracted to perform benchmarked and fully recognized audit systems covering both Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP) scopes as well as Food Safety Management Systems (FSMS).

The reason I mention all of this is because a commonality amongst every single one of the above-mentioned food safety programs or audit systems is that they contain guidance metrics and compliance verification regarding production locations, adjacent land uses, animal intrusion and habitat management. This is where vegetated buffers and food safety co-management gets complicated. The outline that follows is an attempt to explain why flexibility in practices, as they pertain to vegetated buffers and riparian habitat, is so critical for growers as we navigate between good environmental stewardship and producing safe, healthy crops for consumers.

---

[2] California Leafy Green Marketing Agreement https://lgma.ca.gov/government-audits/

[3] FDA Food Safety Modernization Act (FSMA) https://www.fda.gov/food/guidanceregulation/fsma/

[4] Frequently Asked Questions on FSMA
https://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm247559.htm

Importance of "Maintained and Manicured" Vegetation [5]

- Food safety personnel, shippers, auditors must be able to visually assess the area for the presence of animals.
    - Overgrown vegetation = NO visibility
    - Without proper visibility, must assume presence of animal activity since visually cannot be discounted.
    - Mowed, sparse vegetation allows proper inspection of area.
        - Examples: rodent holes are more identifiable, animal signs (tracks, feces and carcasses) are easier to detect.
    - Properly maintained vegetation also discourages animals from moving in and creating new habitat as conditions are not ideal (potential for hiding, food sources, wind, etc.)
- Animals, specifically rodents for this discussion, who look for harborage pose a health risk to nearby crops.
    - Field rodents are vectors for disease and contamination including E. coli and Salmonella, and threaten food safety.
    - In one project,[6] ten iceberg lettuce and four spinach fields in the Salinas Valley region of Monterey County were surveyed from May 2009 through June 2010.
        - Mice were the most abundant rodent species found at 50% of sample sites monitored, followed by voles at over 7% of sites. (p.10)
        - On average, three times (3X) as many rodents were found at "wild borders", versus "in-crop".
            - This suggests that these riparian buffer areas should be one of the focus areas to prevent rodent migration into adjacent fields.
    - High growing vegetation is an attractant to birds which are enticed to perch upon the overgrowth.
        - High presence of birds = increased risk for fecal matter in adjacent growing area. [7]
        - High presence of birds = increased risk for product damage (loss of young seedlings and quality defects later in plant growth from pecking) [8]
        - High presence of birds = increased risk for foreign matter in adjacent growing area (bird feathers)
            - I would like to provide a specific example here of an especially problematic foreign matter issue associated with

[5] Note: this outline is a compilation from various industry guidance documents, verbiage from specific growing contracts and assorted audit checklists.

[6] 2010 study titled: FOOD SAFETY AND RODENT CONTROL IN LEAFY GREEN CROPS, completed by Salmon, Terrell. P., Gorenzel, W.P., Newman, P.D. and Lima, L., Department of Wildlife, Fish and Conservation Biology, University of California San Diego County Cooperative Extension, Unpublished final report. California Department of Food and Agriculture, Sacramento, California. Contract No. 09-0220. June 30, 2010 pp. 1-38

[7] See Photo #3 in photo attachment

[8] See Photo #4 in photo attachment

birds. Crow populations are significant in the Salinas Valley and take advantage of dense habitat when they can find it. During certain seasons, when nut trees have produced nut crops (i.e. walnuts), the crows will remove nuts from the trees with their beaks, then fly back to their vegetated habitat, nuts in tow. During the gathering and/or flight process, those nuts are often dropped from the bird's beak. Unfortunately, the nuts can fall into adjacent farm ground and unharvested food crops. Finding nuts in a crop could ultimately result in a farmer having to make the decision to not harvest that crop (or areas of the crop), if the adulteration is great. If those nuts are not removed prior to harvest and end up getting packed with harvested product, companies are subject to a Class 1 Recall (as defined by FDA) [9] of any harvested product that could have come into contact with those nuts.

- The susceptibility of foreign matter to a produce field increases significantly with overgrown vegetation and the inability for effective monitoring.
  - Products that are mechanically harvested are at an even higher risk. Machines will cut and collect anything in its path when travelling through a field – along with the intended product, this could include a rodent, vegetation debris, bird feathers, etc. and aside from the leafy item itself, nobody wants to find any of the others on their salad plate!

Importance of Monitoring with Bait Stations and/or Traps

- Vegetable crops exposure to rodents can be high risk. Failure to follow required principals could lead to fecal and/or bacteria adulteration of food source.
  - Bait and Trapping Control Devices are placed at strategic locations where there is the potential for rodent harborage or rodent activity, including areas such as fresh rodent holes, heavy brush areas, creeks, riverbanks, catch ponds, etc.
  - Rodent bait is not used while crops are growing and/or being harvested in adjacent blocks.
  - Bait is placed in stations to keep it from being accessible to birds and other non-target animals.
  - Bait Stations and Trapping Devices are inspected and documented at least twice a month or more often, depending on rodent activity.
    - Traps are utilized for determining rodent populations.

[9] Class I: Dangerous or defective products that predictably could cause serious health problems or death. Examples include: food found to contain botulinum toxin, food with undeclared allergens, a label mix-up on a lifesaving drug, or a defective artificial heart valve.
https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm049070.htm

        - Captured rodents are properly disposed of away from fields or water sources.
    - Bait Stations and Trapping Devices are placed sufficiently away from water supply and direct discharge water sources to prevent cross contamination.
    - Bait Stations have specifically designed caps that prevent surface water from entering the bait reservoir.

Animal Intrusion into Growing Area

- Instances of animal intrusion (tracks, fecal matter, carcass) ultimately result in buffered areas and loss of product. [10]
    - Buffers can vary in size depending on level of intrusion [11]
        - Typically 5' minimum buffer on low hazard (single set of tracks, single incident of fecal matter, effected area less than 10' diameter)
        - Typically 10' minimum buffer on medium hazard (more than one set of tracks, more than once incidence of fecal matter, effected area more than 10' in diameter but less than ¼ acre)
        - Anything high hazard results in significant buffered areas (more than ¼ acre contaminated)

As you can see, there are many factors to consider on our ranches as we work to meet all demands set forth by what could be construed as "competing interests". Understanding the various food safety concerns that an overly robust vegetated buffer or riparian area can have on growers, I urge you to consider less prescriptive mandates in this area.

Just this past November, we saw Centers for Disease Control & Prevention (CDC), public health and regulatory officials in several states, Canada, and the FDA investigate a multistate outbreak of Shiga toxin-producing Escherichia coli O157:H7 (E. coli O157:H7) infections associated with romaine. [12] As part of the investigation, based on the traceback, FDA investigators, along with state officials and CDC analyzed samples taken from several locations and found E. coli O157:H7 that matched the outbreak strain in one sample from sediment in an ag water reservoir on a ranch in Santa Barbara. However, other legs of the traceback don't seem related to this ranch, and the investigation is still ongoing. To have witnessed the widespread effect from what could potentially be a single positive finding only bolsters the argument that the food safety practices and guidelines that have been developed using sound science must be adhered to, in order to minimize risk. For a week, harvested romaine product was being discarded and mature fields ready

---

[10] See Photo #1 and Photo #2 in photo attachment

[11] California Leafy Green Marketing Agreement "Commodity Specific Food Safety Guidelines for the Production and Harvest of Lettuce and Leafy Greens". Adopted September 28, 2018. "Figure 5. PRE-HARVEST and HARVEST Assessment – Animal Hazard/Fecal Matter Decision Tree" p52 , "TABLE 5. ANIMAL HAZARD IN FIELD (WILD OR DOMESTIC)" p53 and internal company Standard Operating Procedures

[12] https://www.cdc.gov/ecoli/2018/o157h7-11-18/updates.html and https://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm626330.htm

for harvest were being walked away from (ineffectively removing any N from the field). Employees were laid off and even now, as romaine has been "cleared" and deemed safe to consume, market demand has not rebounded. Consumers were forced to seek alternatives in the fresh produce section of the supermarket and restaurants to replace the ever-popular Caesar Salad on their menus.

We need not look any further than the most recent foodborne illness outbreaks related to fresh produce to understand that even the most minor deviations from standard food safety operating procedures on the ranch can have a very major effect on an entire industry, the workers employed by that industry and most important, the consumer.

General consumer confidence for leafy greens and vegetables is of the highest importance to our society and the health of our nation. The aforementioned example was specific to romaine, but we must think more broadly in terms of our overall food safety programs as an issue with one commodity affects the entire fresh produce supply chain in terms of consumer confidence. It takes time to repair the damage done to a commodity following an outbreak. According to a USDA – Economic Research Study, it took 68 weeks after the 2006 spinach outbreak for spinach sales to surpass where they were before the outbreak. [13] The more frequently food safety related outbreaks occur; there is a higher chance that the reputation of leafy greens as an overall category will be tarnished.

The ability to manage our growing areas, with practices outlined earlier in this letter, are critical to our operation. It is through these proactive practices that we stand the best chance at preventing future food safety related incidents. Leafy green vegetables are an important part of a healthy diet and provide a multitude of benefit to the human body. [14] Just to highlight a few, eating a diet rich in leafy greens can offer numerous health benefits including reduced risk of obesity, heart disease, high blood pressure and mental decline. [15] We are committed to doing our part to provide consumers, of which our families are as well, the opportunity to consume fresh produce daily with a sense of confidence and security.

Again, thank you for your consideration of these comments. It is our family's hope that they be taken into account before the final order is put in place.

Respectfully,

Colby Pereira
Food Safety Manager
Anthony Costa & Sons

---

[13] https://www.ers.usda.gov/amber-waves/2010/march/consumers-response-to-the-2006-foodborne-illness-outbreak-linked-to-spinach/

[14] https://www.ars.usda.gov/plains-area/gfnd/gfhnrc/docs/news-2013/dark-green-leafy-vegetables/

[15] https://www.ncbi.nlm.nih.gov/pubmed/29263222

Photo Attachment

Animal Intrusion (tracks) and Bird Damage (fecal matter) – Flags = Buffered "Do Not Harvest" Area

Photo #1

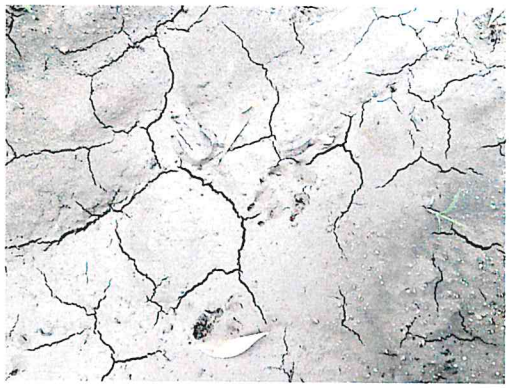

Photo #2

Photo #3

Product Damage

Photo #4